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Date: 12/16/2004 10:58:28 AM
Subject: Winter Quarters Permit Extension

Pam:

Here are our comments on Skyline Mine's Winter Quarters extension. Please let me know if you need anything else.

Dale

(See attached file: response_12_16_04.doc)

CC: Dale Harber <dharber@fs.fed.us>

Re: Request for Consultation for Amendment to Allow for Subsidence Mining in the North Lease Extension, Canyon Fuel Company, LLC, Skyline Mine, C/007/0005, Task ID #1976, Outgoing File

We have reviewed Canyon Fuel Company's revised Skyline Mine North Lease Amendment for consistency with the Manti-La Sal National Forest Land and Resource Management Plan (Forest Plan) and applicable lease stipulations. Data are lacking to show that the amendment is consistent with the Forest Plan and lease stipulations for Riparian Management Units and hydrologic resource management. The data on macroinvertebrates also must be updated to be consistent with Forest Plan requirements.

The amendment does not contain data showing that proposed mining operations are consistent with direction for minerals activities within Riparian Management Units:

“Avoid and mitigate detrimental disturbance to the riparian area by mineral activities. Initiate timely and effective rehabilitation of disturbed sites.”

The forest-wide direction for riparian, flood plain, and wetlands management is:

“Give preferential consideration to riparian area dependent resources in cases of unresolvable resource conflicts”, and

“Prior to implementation of project activities, delineate and evaluate riparian areas and/or wetlands that may be impacted.”

The amendment also does not contain data showing that proposed operations would be in compliance with Forest Service lease stipulations #7 and #9:

Stipulation #7 – The Lessee shall be required to establish a monitoring system to locate, measure and quantify the progressive and final effects of underground mining activities on the topographic surface, underground and surface hydrology and vegetation. The monitoring system shall utilize techniques which will provide a continuing record of change over time and an analytical method for location and measurement of a number of points over the lease area. The monitoring shall incorporate and be an extension of the baseline data.

Stipulation #9 – Except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would: (1) cause the creation of hazardous conditions such as potential escarpment failure and landslides, (2) cause damage to existing surface structures, and (3) damage or alter the flow of perennial streams. The Lessee shall provide specific measures for the protection of escarpments, and determine corrective measures to assure that hazardous conditions are not created.

The data presented in the amendment must be supplemented or clarified to show that the

amendment is in compliance with the Forest Plan and the lease stipulations. As it is written, it is not possible to determine if the mining would potentially impact the hydrologic resources within the lease or alter the flow of Winter Quarters Canyon and Woods Canyon creeks. Items that must be addressed include:

1. Explain why only 2 to 4 feet of subsidence is expected when 9 to 11 feet of coal are removed. Using the standard value of 70% of the mined height, a maximum of approximately 7 feet of subsidence would be expected.
2. Explain the rationale of the hydrologic monitoring plan, such as the selection of monitoring points and how they will be representative of the effects of mining on the hydrologic system.
3. Explain why the areas of predicted surface cracking are only on the sides of the canyons. In the Burnout Canyon study, fractures occurred through the streambed and canyon bottom.
4. Describe the effects of subsidence on stream gradient in both Winter Quarters Canyon and Woods Canyon creeks.
5. Longwall panels are proposed under sections of perennial streams. Explain how full-extraction mining may occur beneath perennial streams without impacting flows, based on predicted subsidence, overburden thickness, and any other relevant factors. Describe effects to the streams.

The discussion and analysis of the macroinvertebrate data must also be updated to be consistent with Forest Plan direction. Macroinvertebrates are one of the “management indicator species” used in the Forest Plan as an indicator of forest health. The methodology varies between James and Burnout Creeks, Winter Quarters Canyon Creek, and Eccles Creek. Canyon Fuel Company should contact Katherine Foster, Forest Hydrologist, at 435-636-3503 for information on updating the macroinvertebrate data to be consistent with Forest Plan direction. Forest Plan direction for macroinvertebrates is:

“To improve and maintain a good or above Diversity Index (DAT) of 11-17, a standing crop of 1.6-4.0, and a Biotic Condition Index (BCI) of 75 or above, based on analysis from R-4’s Aquatic Ecosystem Analysis Laboratory.”

It is not clear that the proposed activities will meet this requirement.

We also have the following general comments on the amendment:

1. The lease area that Canyon Fuel Company proposes to add to the Skyline Mines Mining and Reclamation Plan (MRP) was issued as the Winter Quarters Tract. Unless there is some necessity for a name change, please refer to this as the Winter Quarters Lease, not the North Lease, to avoid confusion in the future. Both names are used in the amendment (such as page 2-71), which is confusing to readers. All Forest Service records going back nearly 10 years refer to this tract as the Winter Quarters Tract.
2. There are numerous statements made that have no supporting reference.

For example, there are numerous statements that fractures in the North Horn Formation seal rapidly due to their clay content. There is no reference to any research on this, clay mineralogy analyses, or any other data to support this statement. References must be cited that substantiate statements made in the amendment.

3. The Probable Hydrologic Consequences (PHC) has not been updated to reflect proposed undermining of perennial streams (Winter Quarters Canyon Creek and Woods Canyon Creek) and springs in the Winter Quarters Lease. The Forest Service requests both the updated PHC and the Cumulative Hydrologic Impacts Analyses for review.

The following are issues raised in our letter of November 21, 2002, that have not been addressed.

1. A map of the predicted extent and magnitude of potential subsidence has been added. However, there is still no discussion of how subsidence may be affected by the faulting in the area, such as the potential for focused subsidence along the faults.
2. There is no information provided on stream gradient surveys. Due to the generally low stream gradient in the canyon bottoms, we are concerned with the potential of forming sections of reverse gradient and the general effects of subsidence on stream flows.
3. Perennial stream reaches have not been mapped.
4. There is no objectives and methods discussion provided for the hydrologic monitoring plan. Explain how the monitoring points were selected.

The following are specific comments keyed to specific portions of the MRP text:

Page 2-10a, third paragraph.

Provide a reference to the study and report on *in situ* stresses along the faults.

Page 2-29a, first paragraph.

The potentiometric surface cannot be defined with only 2 data points. A minimum of 3 data points are required to define a potentiometric surface.

Page 2-51d, second paragraph.

Consultation on mitigation measures for a water loss must also include the Forest Service, the surface management agency.

Pages 2-63c to 2-63d, seed mix table.

Species changes can only be made with the concurrence of the botanist of the surface management agency. The term "qualified botanist" is too vague.

Page 2-63e, fourth and fifth paragraph.

Here is an example of interchanging the names Winter Quarters and North Lease. As stated above, the Forest Service prefers to call the area Winter Quarters.

Page 2-71, third paragraph.

The Forest Service must also be involved in establishing sampling intervals for macroinvertebrates.

Pages 2-71 to 2-71d.

The methods discussed for macroinvertebrate surveys and analysis of the data in James and Burnout Creeks, Winter Quarters Canyon Creek, and Eccles Creek are not consistent.

Page 2-104i, Herpetofauna.

This section should include a discussion on the spotted frog and boreal toad (conservation agreement species). State whether there is potential habitat, or if these species have been found in the area.